

REMARKS

I. INTRODUCTION

Claim 1 has been amended. Claims 2, 4, 5 and 8 have been cancelled. Thus, claims 1, 3, 6, 7, and 9-15 remain pending in the present application. No new matter has been added. In light of the above amendments and the following remarks, Applicants respectfully submit that all presently pending claims are in condition for allowance.

II. THE 35 U.S.C. § 103(a) REJECTIONS SHOULD BE WITHDRAWN

Claims 1, 4-9, and 12-14 stand rejected under 35 U.S.C. §103(a) for being obvious over Aregger (U.S. Patent No. 6,276,480), in view of Matsumoto et al. (U.S. Patent No. 4,778,024), further in view of Vuagnat (U.S. Patent No. 4,881,755), and further in view of Yamaguchi et al. (U.S. Patent No. 7,440,834).

Claim 1 has been amended and now recites, “[a] vehicle for a handicapped person, comprising: at least one steerable front wheel; a frame; at least two wheel suspensions; at least two rear wheels, each of the at least two rear wheels being individually coupled to the frame with a corresponding one of the at least two wheel suspensions; controllable steering drives, each controllable steering drive corresponding to and driving the corresponding one of the two rear wheels; a fork holding the at least one front wheel; a steering rod connected to the fork and steering the at least one front wheel; at least one rotational angle sensor situated on the steering rod; and a change-over switch, *wherein the rotational angle sensor provides a signal on the pivot angle of the front wheel*, wherein the signal is used for the activation of the controllable steering drives which control the two rear wheels, and wherein *the change-over switch switches between predetermined travel modes, the modes defining an activation and orientation of the at least two rear wheels.*”

Claim 1 has been amended to substantially include the limitations of cancelled claim 8. In the rejection of claim 8, the Examiner states that the combination of Aregger in view of Matsumoto meet the recited change-over switch. (See 6/23/09 Office Action,

p. 4). The Examiner also states that “this mode as broadly defined amounts to the decision of whether to turn the handlebars of the vehicle, thereby changing the mode of the wheels from facing straight ahead to facing sideways.” (See Id.). Applicants respectfully disagree. One of ordinary skill in the art would understand that the decision of whether or not to turn the handlebars lies with the user. There is no suggestion in the present application that the vehicle is completely autonomous. Thus, the Examiner is mistaken in interpreting the claim language to mean that the change-over switch “amounts to the decision of whether to turn the handlebars of the vehicle.”

Furthermore, the Examiner correctly acknowledges that Aregger fails to disclose at least one steering drive driving the at least two rear wheels. To cure this deficiency, the Examiner relies on Matsumoto. However, Matsumoto explicitly discloses that the “front wheel 2 is steering while the steering motor 10 is being driven in accordance with the detection of the track 12 effected by the track sensor 13.” (See Matsumoto, col. 2, ll. 64-66). That is, Matsumoto’s vehicle follows a track (12). Matsumoto further explains that when the vehicle reaches a desired point on the track, it makes a 180° turn and continues to move along the track in the opposite direction. (See Id., col. 3, ll. 21-65, col. 8, ll. 60-68). So, the vehicle moves along the track until it reaches a desired position, turns until it faces the opposite direction, and continues moving along the track in the opposite direction. The turning operation is terminated when the track sensor detects the track again. Therefore, it is the track sensor and the track that dictate how and where Matsumoto’s vehicle operates and not a change-over switch. Furthermore, the claimed invention contemplates different modes of operation. In many of the modes, the orientation of the front wheel can remain the same while the orientation of the two rear wheels change. This allows the vehicle to be driven, for example, parallel to a wall in either direction. Accordingly, Matsumoto fails to disclose or suggest “*the change-over switch switches between predetermined travel modes, the modes defining an activation and orientation of the at least two rear wheels,*” as recited in claim 1.

Still further, the Examiner correctly acknowledges that the combination of Aregger, Matsumoto, and Vuagnat does not teach “the use of a rotational angle sensor

situated on the steering rod.” (See 6/23/09 Office Action, p. 5). To cure this deficiency, the Examiner relies on Yamaguchi. However, Yamaguchi discloses a steering wheel (5), which controls the direction of two front tires (1, 2), and an angle sensor (25), which detects the amount by which the steering wheel has been turned. (See Yamaguchi, col. 4, ll. 24-26, col. 5, ll. 15-18). The angle sensor then sends a signal indicative of the amount the steering wheel is turned to a controller (8). The controller then sends a signal to a steering actuator (16), which is “operatively coupled to the left and right rear wheels 3 and 4 to turn (steer) the left and right rear wheels 3 and 4 in response to operation of the steering wheel 5 during certain predetermined driving conditions.” (See Id., col. 4, ll. 45-48).

The Examiner asserts that, in measuring the amount by which the steering wheel has been turned, the angle sensor (25) “also indirectly detects the pivot angle of the front wheel with relation to the turning of said steering wheel, thus meeting the limitations as stated in claim 1.” (See 9/3/09 Advisory Action, p. 2). Applicants respectfully disagree. One of ordinary skill in the art would understand that the amount by which a steering wheel is turned is not the same as the amount by which a wheel is turned. The Examiner seeks to overcome this deficiency by stating that the sensor indirectly detects the pivot angle of the front wheel(s). However, Yamaguchi discloses that “the gear ratio of the steering gear 15 is set such that the amount of change in the steering angle of the left and right front wheels 1 and 2 that results when the steering wheel 5 is turn 1/16 the amount of change in the steering wheel angle.” (See Yamaguchi, col. 4, ll. 51-55). Just because one of ordinary skill in the art can calculate the pivot angle of the front wheels (by dividing the steering wheel angle of turn by 16) does not mean that the angle sensor (25) detects, or even indirectly detects, the angle. Accordingly, Yamaguchi fails to disclose or suggest “the rotational angle sensor provides a signal on the pivot angle of the front wheel.”

Applicants respectfully submit that Vuagnat and Yamaguchi fail to cure the above mentioned deficiencies and that Aregger, Matsumoto, Vuagnat, and Yamaguchi, taken alone or in any combination, fail to disclose or suggest “*the change-over switch switches*

between predetermined travel modes, the modes defining an activation and orientation of the at least two rear wheels,” and “the rotational angle sensor provides a signal on the pivot angle of the front wheel,” as recited in claim 1. Therefore, it is respectfully submitted that claim 1 and its dependent claims 4-7, 9, and 12-14 are allowable.

Claims 2-3, 10, and 15 stand rejected under 35 U.S.C. §103(a) for being obvious over Aregger in view of Matsumoto, further in view of Vuagnat, further in view of Yamaguchi, and further in view of Itoh (U.S. Published App. No. 2004/0238259).

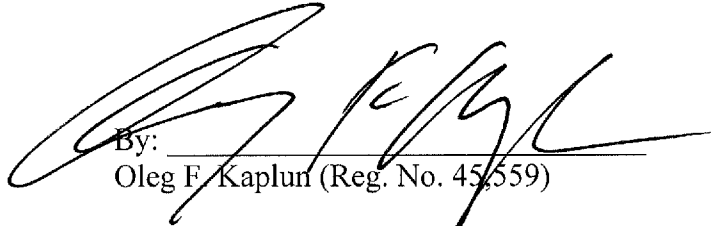
Applicants respectfully submit that Itoh fails to cure the above mentioned deficiencies of Aregger, Matsumoto, Vuagnat, and Yamaguchi and that Aregger, Matsumoto, Vuagnat, Yamaguchi, and Itoh, taken alone or in any combination, fail to disclose or suggest that *“the change-over switch switches between predetermined travel modes, the modes defining an activation and orientation of the at least two rear wheels,”* and *“the rotational angle sensor provides a signal on the pivot angle of the front wheel,”* as recited in claim 1. Because claims 2-3, 10, and 15 depend on and, therefore, contain all of the limitations of claim 1, it is respectfully submitted that these claims are also allowable.

CONCLUSION

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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